

REMARKS

Claims 22-42 are pending in the current application. Claims 32-42 were withdrawn from consideration as being drawn to the non-elected invention. By way of the present Amendment, Applicants have amended claims 25 and 28, and canceled claim 31. Therefore, claims 22-30 are presently under examination.

Objection to the Specification

The Examiner has objected to the specification because, in the Examiner's view, all of the claimed priority is not stated. Applicants respectfully disagree, and assert that all of the claimed priority is indeed properly stated in the specification for the following reasons.

Applicants respectfully direct the Examiner's attention to the first page of the Utility Patent Application Transmittal form submitted with the present application on April 20, 2001. The transmittal form properly claims the priority of International Application No. PCT/AU99/00897. Applicants further direct the Examiner's attention to the front page of priority application PCT/AU99/00897 (a copy of which is enclosed herewith) and in particular, to item number "(30)", which properly claims priority to Australian Provisional Patent Application No. PP6646. Specific reference to applications PCT/AU99/00897 and PP6646 was properly added to the specification by way of the Amendment submitted by Applicants on August 12, 2002, and therefore, all of the priority information for the instant application is indeed clearly set forth in the Specification.

Accordingly, Applicants respectfully submit that the Examiner's objection to the specification is improper, and respectfully request withdrawal of the objection.

Objections to the Oath/Declaration

The Examiner objected to the Oath because the Oath does not acknowledge that the present application is a continuation of PCT/AU99/00897 filed on October 18, 1999. In accordance with the Examiner's suggestion, Applicants will prepare and submit a new Oath listing the application number and filing date of the present application and properly claiming priority to PCT/AU99/00897.

Applicants wish to bring to the Examiner's attention that the as-filed Oath

contains an inadvertent typographical error, which error lists "PCT/US00/24244" as a priority document. Applicants note that the present application does not claim the priority of PCT/US00/24244, and that the inadvertent typographical error appears to be based on a mistaken substitution of the publication number of a priority document for the instant application. Specifically, Applicants direct the Examiner's attention to the first page of the Utility Patent Application Transmittal form submitted with the present application on April 20, 2001, which transmittal form properly claims the priority of International Application No. PCT/AU99/00897. The **publication number** for the published priority document – WO00/24244 – appears to have been mistakenly read as the "application number" in the preparation of the as-filed Oath. Accordingly, when Applicants prepare a new Oath as described above, the incorrect reference will be deleted from the Oath.

Applicants further note the filing receipt also contains an incorrect priority claim to "PCT/US00/24244." Accordingly, Applicants will request a corrected filing receipt that does to reflect the correct priority information.

Priority Documents

The Examiner has requested certified copies of the priority documents, International Application No. PCT/AU99/00897 and Australian Provisional Patent Application No. PP6646.

On September 17, 2003, Applicants' representative, Thomas Sossong, spoke with Examiner Baum regarding the Examiner's request for certified documents. It is Applicants' understanding that a non-certified copy of International Application No. PCT/AU99/00897 (PCT Publication No. WO00/24244) will fulfill the Examiner's request regarding that particular priority document. A copy of PCT Publication No. WO00/24244 (i.e., PCT/US00/24244) is enclosed herewith in compliance with the Examiner's request.

Applicants also understand that the Examiner still requires a certified copy of Australian Provisional Patent Application No. PP6646. Accordingly, Applicant's have requested a certified copy of Application No. PP6646, and will forward the certified copy to the Examiner as soon as such document is obtained.

Rejections under 35 U.S.C. § 112, second paragraph

The Examiner has set forth several rejections under 35 U.S.C. § 112, second paragraph. First, it is the Examiner's view that claim 25 is indefinite for recitation of the term "high molecular weight." While not acquiescing to the Examiner's rejection, but in an effort to expedite prosecution, Applicants have amended claim 25 to recite, "...wherein said DNA is a high molecular weight DNA fraction of genomic DNA, said high molecular weight DNA being obtainable by cesium chloride fractionation."

Applicants respectfully submit that, as amended, claim 25 is not indefinite in any way because "high molecular weight" is a term of art, which would be understood by the skilled artisan, based upon the disclosure provided in the specification as filed. Applicants refer to Chapter 2, section 4.3, in Plant Molecular Biology: A Laboratory Manual, M.S. Clark, ed. (Springer Verlag, 1997), which is a standard treatise wherein the term "high molecular weight" plant genomic DNA is used repeatedly, further evincing that this a well-known term of art that will be readily understood by one skilled in the art, especially in light of the disclosure provided in the specification as filed.

Further, at lines 7-10 on page 13 of the specification, Applicants specifically describe that the DNA used in one embodiment of the invention was prepared according to the methods of Weining et al. (1991, Theor. Appl. Genet., 82:209-216). Applicants respectfully submit that one of ordinary skill in the art would understand that, by following the procedures set forth in Weining et al., they can obtain the very same high molecular weight DNA used in the present invention.

Thus, it is clear that one skilled in the art, provided with the teachings set forth in the specification as filed, would understand what is meant by the term "high molecular weight" DNA as recited in amended claim 25, and nothing further is required for purposes of 35 U.S.C. §112, second paragraph. Accordingly, Applicants respectfully submit that claim 25 is not indefinite for reciting the term "high molecular weight" and this rejection should be reconsidered and withdrawn.

The Examiner has also rejected claim 28 as being indefinite for recitation of the term "cereal." Specifically, it is the Examiner's view that the term "cereal" has "different meanings for different people." While not acquiescing to the Examiner's rejection, but in an effort to expedite prosecution, Applicants have amended claim 28 to recite, "...wherein said cereal is a crop-plant from which is obtainable an edible seed or grain." Applicants respectfully

submit that claim 28, as amended, is not indefinite.

The American Heritage Dictionary of the English Language defines “cereal” as “A grass such as wheat, oats, or corn, the starchy grains of which are used as food.” (Fourth Ed., 2000). Further, the American Heritage Dictionary of the English Language defines rice as one such cereal: “A cereal grass (*Oryza sativa*) that is cultivated extensively in warm climates for its edible grain.” Both of the above definitions fall within those definitions that would be recognized and known by one of ordinary skill in the art.

Applicants respectfully submit that the present application provides extensive support for cereals. For example, line 11 on page 3 of the specification describes “cereals such as rice,” and line 30 on page 15 of the specification sets forth that “rice was the first cereal to successfully be transformed.” Applicants submit that one of skill in the art, when armed with the disclosure of the present application and with common knowledge of the definition of the term “cereal,” would undoubtedly know the meaning of the term “cereal” as set forth in amended claim 28. Accordingly, Applicants respectfully submit that the Examiner’s rejection of claim 28 no longer applies and respectfully request withdrawal of the rejection.

Rejection under 35 U.S.C. § 112, first paragraph – written description

The Examiner has rejected claim 31 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor had possession of the claimed invention at the time of filing. While not acquiescing to the Examiner’s rejection, but in an effort to expedite prosecution, Applicants have cancelled claim 31, reserving the right to pursue the subject matter of cancelled claim 31 in a divisional or continuing application. Accordingly, Applicants respectfully submit that the Examiner’s rejection of claim 31 is no longer applicable, and respectfully request withdrawal of the rejection.

Rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a)

Claim 31 was rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Turbin et al. (1975, Mutation Research 27:59-68). While not acquiescing to the Examiner’s rejection, but in an effort to expedite prosecution, Applicants have cancelled claim 31, reserving the right to pursue the subject matter

of cancelled claim 31 in a divisional or continuing application. Accordingly, Applicants respectfully submit that the Examiner's rejections of claim 31 are no longer applicable, and respectfully request withdrawal of the rejections of claim 31 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a).

The Examiner has also rejected claims 22-25, 27, 28, and 30-31 under 35 U.S.C. § 103(a) as being unpatentable over Turbin et al. in view of Christou (1997 Plant Molecular Biology 35:197-203). Specifically, it is the Examiner's view that it would have been within the scope of one of ordinary skill in the art to modify the method of Turbin et al. and to use the microprojectile bombardment method taught by Christou. Applicants respectfully disagree for the following reasons.

As set forth in the Declaration Of Leonard Slade Lee pursuant to 37 C.F.R § 1.132, enclosed herewith, Turbin et al. is a document that provides data that has since been considered dubious and unreproducible, and has largely been ignored by persons of ordinary skill in the relevant art. The Declaration sets forth detailed facts and reasoning as to why Turbin et al. would not be considered to teach "a method of transforming a barley plant" as set forth by the Examiner on page 7 of the Office Action.

For Example, Turbin et al. state, on page 67 of the reference, "So far it is not understood whether cells of one flower or a few cells of every anther of a plant underwent changes. It will become much clearer when all seed are sown and the pollen of the progeny is examined carefully." The Examiner's assertion that Turbin et al. teach "a method of transforming a barley plant" is in contrast with the authors of the Turbin reference. Further, Sanford et al. (1984, Theor. Appl. Genet. 67:553-558) demonstrated that, using the approach of Turbin et al., zero transformation events out of a possible 22,300 were obtained. Further still, the Declaration provides additional examples of peer-reviewed articles that contend with, and cast doubt upon the Turbin reference.

In order for a rejection under 35 U.S.C. § 103(a) to be proper, the Examiner must establish a *prima facie* case of obviousness. More specifically, it must be shown that there is some suggestion or motivation to combine the cited references, that the prior art provides one of ordinary skill in the art with a reasonable expectation of success, and that the combination of the art teaches or suggests each and every element of the rejected claims.

The three-prong test which must be met for a reference or a combination of

references to establish a *prima facie* case of obviousness has not been satisfied in the instant matter. The MPEP states, in relevant part:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. MPEP § 2142.

None of these criteria have been met here.

Applicants respectfully submit that one of skill in the art would not be motivated to combine the questionable teachings of Turbin et al. with Christou in order to arrive at the present invention. Because of the doubt cast upon the teachings of Turbin et al. by numerous peer-reviewed articles in the relevant art, and because of the irreproducibility of the work of Turbin et al., the skilled artisan would therefore have no expectation of success in combining the teachings of Turbin et al. with Christou to arrive at the present invention. And finally, Turbin et al. does not teach or suggest all of the claim limitations of the present invention set forth in claims 22-25, 27, 28, and 30-31, for the reasons set forth above. Accordingly, Applicants respectfully submit that the Examiner's rejection is improper, and respectfully request reconsideration and withdrawal of the rejection.

The Examiner has also rejected claims 26 and 29 under 35 U.S.C. § 103(a) as being unpatentable over Turbin et al. in view of Christou (1997 Plant Molecular Biology 35:197-203), and further in view of Applicants' own admitted statement of the prior art Xiao et al. (1996, Nature 384:223) and Weining et al. (1991, Theor. Appl. Genet. 82:209-216). Applicants disagree for the following reasons.

The Examiner's rejection is again based upon the view that Turbin et al. teach a method of transforming a barley plant with directly isolated and uncharacterized high molecular weight genomic DNA. Therefore, if the Examiner's grounds for rejection based on Turbin et al. are improper, then the Examiner has not established a *prima facie* case of obviousness, as required by MPEP § 2142. For the reasons set forth above in response to the Examiner's obviousness rejection of claims 22-25, 27, 28, and 30-31, Applicants respectfully submit that the

Examiner's obviousness-based rejection of claims 26 and 29 is improper, and respectfully request reconsideration and withdrawal of the rejection. Applicants respectfully direct the Examiner's attention to the enclosed Declaration pursuant to 37 C.F.R § 1.132.

Summary

The amendments made herein are supported in the as-filed specification, and as such, no new matter has been added by way of the present amendment. Applicants respectfully submit that each and every rejection or objection set forth by the Examiner has either been overcome or is now inapplicable, and that the instant application is in full condition for allowance. Favorable examination of the claims on the merits is respectfully requested.

Respectfully submitted,

ROBERT HENRY *ET AL.*

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(Date)

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